

carried out at a temperature of about 150° to about 200° C. for about 1 to about 22 hours as secondary vulcanization.

[0026] In the prior art disclosed in the above-mentioned JP-A-50-132057 practically using only polyvalent carboxylic acid salt in spite of the statement of applicability of polyvalent carboxylic acids, an acrylic elastomer composition capable of giving distinguished vulcanization characteristics can be obtained in the present invention by using polyvalent carboxylic acids per se. Vulcanization products of the present acrylic elastomer composition have also distinguished compression set characteristics.

[0027] By using a hydrotalcite in place of the halogen ion acceptor used in the above-mentioned JP-A-50-132057, not only an acrylic elastomer composition having a particularly distinguished vulcanization rate can be obtained in the present invention, but also vulcanization products of the present acrylic elastomer composition have also distinguished heat resistant property and compression set characteristics.

[0028] Furthermore, vulcanization products having good normal state physical properties and compression set characteristics can be obtained in the present invention without any secondary vulcanization. That is, the vulcanization time can be largely shortened. On the other hand, as is obvious from comparison of Example 4 (use of azelaic acid) with Comparative Example 6 (use of disodium azelate), compression set characteristics of Comparative Example 6 are poor and thus the secondary vulcanization is substantially indispensable. Furthermore, as is obvious from comparison of Example 4 with Comparative Examples 1 to 5, the vulcanization rate is more distinguished in the present invention, even if the same azelaic acid is used in these cases, and there is a remarkable difference particularly in the compression set characteristics there between.

[0029] The present acrylic elastomer composition having these distinguished characteristics can be effectively used as molding materials for oil seals, O-rings, packings, gaskets, hoses, etc.

PREFERRED EMBODIMENTS OF THE INVENTION

[0030] The present invention will be described in detail below, referring to Examples and Comparative Examples, where parts are by weight.

EXAMPLE 1

[0031] 100 parts of acrylic elastomer A consisting of an ethyl acrylate-p-chloromethylstyrene copolymer (ratio by weight=98:2) was admixed with the following components, kneaded by an open roll and subjected to press vulcanization at 180° C. for 8 minutes and then to oven vulcanization (postcure) at 175° C. for 4 hours:

Pentaerythritol fatty add ester (Emaster 430W, trademark of a product made by Riken Vitamine K.K., Japan)	2 parts
Dimethyistearylamine (Farmin DM80, trademark of a product made by Kao Corp., Japan)	1 part

-continued

4,4'-bis(a,a-dimethylbenzyl)diphenylamine (Nocrac CD, trademark of a product made by Ouchi-Shinko Kagaku KK, Japan)	2 parts
FEF carbon black (N550)	50 parts
Adipic acid	0.8 parts
Octadecyltrimethylammonium bromide	1 part
Synthetic hydrotalcite (DHT-4A-2, trademark of a product made by Kyowa Kagaku K.K., Japan)	4 parts

[0032] The resulting kneading product and vulcanization product were subjected to determination of the following characteristics:

[0033] Vulcanization characteristics: t_{c10} , t_{c90} and MH at 180° C. by a curastometer

[0034] Mooney viscosity and scorch time(t_5): 125° C. according to JIS K-6300

[0035] Vulcanization characteristics: according to JIS K-6301

[0036] Compression set: 150° C. for 70 hours according to JIS K-6301

[0037] Heat aging resistant property: changes in the normal state physical properties by heating at 175° C. after 70 hours

EXAMPLE 2

[0038] In Example 1, the same amount of acrylic elastomer B consisting of an ethyl acrylate-n-butyl acrylate-2-methoxyethyl acrylate-vinyl chloroacetate quaternary copolymer (ratio by weight=48:25:25:2) was used in place of the acrylic elastomer A, and the amount of FEF carbon black was changed to 60 parts.

EXAMPLE 3

[0039] In Example 1, the same amount of an acrylic elastomer C consisting of an ethyl acrylate-n-butyl acrylate-2-methoxyethyl acrylate-p-chloromethylstyrene quaternary polymer (ratio by weight=48:25:25:2) was used in place of the acrylic elastomer A, and the amount of FEF carbon black was changed to 60 parts.

EXAMPLE 4

[0040] In Example 3, one part of azelaic acid was used in place of 0.8 parts of adipic acid.

EXAMPLE 5

[0041] In Example 3, 1.1 part of sebacic acid was used in place of 0.8 parts of adipic acid.

EXAMPLE 6

[0042] In Example 3, the same amount of benzyltriphenylphosphonium chloride was used in place of the octadecyltrimethylammonium bromide.

EXAMPLE 7

[0043] In Example 3, 0.5 parts of diphenylurea was further added.